

**Amendments to the Drawings:**

The attached sheet of drawings includes changes to Figure 1. This sheet, which includes Fig. 1, replaces the original sheet including Fig. 1.

Attachment: Replacement Sheets



REMARKS

Claims 1-29 and 38-40 are presented for further examination. Claims 30-37 have been canceled, and claims 1-4, 7, 18, and 26-29 have been amended. Claims 38-40 are new.

In the Office Action dated March 27, 2007, the Examiner objected to the oath or declaration because it did not identify the mailing address of each inventor, did not identify the foreign application on which priority is claimed, and did not identify the city and either state or foreign country of residence of each inventor. The drawings were objected to because reference number 21 was missing in Figure 1. The specification was objected to because on page 9, line 6, the word "multiplexors" should be replaced by -- multiplexers --.

Claims 1-29, 30-34, and 36-37 were objected to because of the informalities listed on pages 3-4 of the Office Action. In addition, claims 1-29 and 36-27 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite because of informalities in claim 1, lines 13 and 8, and in claim 4, line 1, and corresponding indefiniteness in claims 2, 3, 25-29, 36, and 37.

With respect to the merits, claims 1 and 36 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent Publication No. 2003/0159062 ("Tozawa") in view of U.S. Patent No. 5,313,590 ("Taylor"), U.S. Patent No. 5,559,877 ("Ash et al."), and U.S. Patent No. 5,432,949 ("Baba"). Claims 2 and 3 were rejected as obvious over the foregoing references and further in view of U.S. Patent No. 5,650,951 ("Staver"). Claims 4 and 5 were rejected as obvious over the foregoing references and further in view of U.S. Patent No. 6,301,696 ("Lien et al."). Claims 6 and 7 were rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and further in view of U.S. Patent No. 5,093,819 ("Kimura"). Claim 8 was rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and further in view of U.S. Patent Publication No. 2003/0007636 ("Alves et al."). Claim 9 was rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and further in view of U.S. Patent No. 4,423,287 ("Zeidler"). Claims 10-12 were rejected as obvious over Tozawa, Ash et al., Baba, and further in view of U.S. Patent No. 6,209,099 ("Saunders"). Claims 13-15 were rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and further in view of WO 00/59222 ("Candelore"). Claim 16 was rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and further in view of U.S. Patent No. 5,416,916 ("Bayle"). Claims 17-20 were rejected as obvious over Tozawa, Taylor, Ash et al., Baba, Saunders, and Candelore.



Claims 21-23 were rejected as obvious over Tozawa, Taylor, Ash et al., Baba, Zeidler, and Candelore. Claims 24 and 26 were rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and further in view of U.S. Patent No. 6,356,108 ("Rangasayee"). Claim 25 was rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and further in view of U.S. Patent Publication No. 2003/0223580 ("Snell"). Claim 27 was rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and further in view of U.S. Patent No. 4,155,118 ("Lamiaux"). Claim 28 was rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and further in view of Candelore. Claim 29 was rejected as obvious over Tozawa, Taylor, Ash et al., and Baba. Claim 37 was rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and Candelore. Claim 30 was rejected as obvious over Ash et al. and further in view of Lien et al. Claim 31 was rejected as obvious over Tozawa, Kimura, and Baba. Claim 32 was rejected as obvious over Tozawa, Taylor, Ash et al., and Baba. Claim 33 was rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and Lien et al. Claim 34 was rejected as obvious over Tozawa, Taylor, Ash et al., Baba, and Candelore. Claim 35 was rejected as obvious over Tozawa, Taylor, Ash et al., Baba, Kimura, Zeidler, and Candelore.

Applicant respectfully disagrees with the bases for the rejections and requests reconsideration and further examination of the claims.

#### Oath/Declaration

The Examiner objected to the oath because it did not identify the mailing address of each inventor, the foreign application on which priority is claimed, and the city and state or foreign country of residence of each inventor. Applicant respectfully directs the Examiner's attention to the Application Data Sheet that accompanied this application. All of the foregoing information is provided on the Application Data Sheet.

#### Drawings

Applicant is submitting herewith new formal Figure 1 in which the central processing unit (CPU) is now labeled with reference number 21. Approval and entry of substitute formal Figure 1 is respectfully requested.



### Specification

Applicant has amended the specification on page 9, line 6, to correct the spelling of multiplexers.

### Claim Objections

Applicant has reviewed and incorporated all of the suggested revisions to the claims provided by the Examiner on pages 3-5 of the Office Action, except where those claims have been canceled or otherwise amended to render the objection moot.

### Claim Rejections

Claim 1 is directed to a semiconductor integrated circuit that has a plurality of selectable pathways interconnected between a plurality of data sources and data destinations. Claims 1 recites a cryptographic circuit connected to the pathways and arranged to selectively receive data at an input from at least one of the data sources, to decrypt or encrypt the data in accordance with a key, and to selectively provide the encrypted or decrypted data to at least one of the data destinations via an output. Claim 1 also recites an instruction circuit arranged to receive as input an instruction signal and to generate therefrom an output to control the plurality of selectable pathways and select a data pathway configuration of the circuit from which the data sources of the cryptographic circuit receives data and to which destination the cryptographic circuit provides the data. Further, the instruction circuit is configurable by a pathway configuration limiting rule signal that is received at an input to operate in accordance with the rule signal that limits the data pathway configurations that are selectable by the instruction signal, thereby limiting the flow of data between the data sources and the data destinations.

The instruction circuit (referred to as the “instruction interpreter 29” in the specification) is described in detail at page 11, line 4, through page 12, line 25 in which the instruction circuit receives on a first input an instruction signal 33 generated by the CPU 21 and on a second input 35 a signal representative of a rule (rule signal 35) that has generated an output from a rule selector 37 as an input to the instruction interpreter 29.



In the circuit according to claim 1, data may be selectively routed from one of several data sources to one of several data destinations. The network of data pathways can be controlled to define various data pathway configurations connecting the data sources and destinations. In use, one particular data pathway configuration is selected from the set of all possible data pathway configurations to allow data to be routed from a selected data source to a selected data destination.

It is important to note that the data pathway configuration is selected by an instruction, which is interpreted by the instruction circuit to generate the signals necessary to control the data pathways. The selection of a specific route by an instruction may be based on any appropriate scheme, rule, or condition.

The circuit of claim 1 is distinguishable over all of the references cited by the Examiner as well as all prior systems in that the instruction circuit or instruction interpreter is configurable by a rule signal that limits the data pathway configurations which are selectable by the instruction. In other words, the rule signal specified in claim 1 does not act to make a positive selection of one route from the available routes based on a rule, scheme, or condition – this function is performed by the instruction. Rather, the rule signal acts to define which routes are available for selection, regardless of which route the instruction is attempting to select. Claim 1 has been amended to clarify this distinction and to further distinguish over the references, including referring to the rule signal as a “pathway configuration limiting rule signal.”

The Examiner has asserted that the general concept of a “rule selection circuit” is well known. In support thereof, the Examiner has relied upon Ash et al. (U.S. Patent No. 5,559,887). However, Ash et al. describes selecting a routing path in a network from multiple candidates based on class-of-service parameters and availability of network capacity. This is an example of positively selecting a particular route from all available routes, as described above. What is not disclosed or described in Ash, or in any of the other cited references, is providing a rule signal that directly limits the data pathway configurations that are selectable and therefore available.



Providing a separate rule signal to limit the selectability of data routes, and which is independent from the instruction used to select a particular route, provides several advantages over prior designs.

First, in prior systems, such as Ash et al., rule-based routing depends on software instructions to ensure the data is appropriately routed in accordance with any necessary rules. However, in systems in which sensitive data is routed, such as pay-television systems, security can be compromised by a hacker providing illegitimate instructions to route data to insecure destinations, thereby overcoming the rules. Providing a separate rule signal that limits the data pathway configurations that are selectable provides a second line of defense against hackers. Even if an illegitimate instruction attempts to route data to insecure destinations, the rule signal prevents the insecure route from being selected, thereby maintaining security.

Another advantage of providing a separate rule signal is that different applications or modes of operation of the same device may require different limitations in which data routes are selectable. For example, as specified in claim 3, the rule signal can be chosen from a plurality of possible mode signals according to a mode of operation of the system. Using a circuit according to claim 1 provides flexibility of design since only the rule signal needs to be modified, while using the same instructions. In contrast, prior systems require modified instructions, in turn, requiring additional processing requirements.

Claim 38, which specifies the method by which the component produced in the rule signal is configured, distinguishes over the references cited by the Examiner for the same reasons as discussed above with respect to claim 1.

In view of the foregoing, applicant respectfully submits that independent claims 1 and 38 are allowable. All claims depending therefrom are allowable for the subject matter recited therein as well as for the reasons discussed above with respect to their respective base claims 1 and 38.


In the event the Examiner finds minor informalities that can be resolved by telephone conference, the Examiner is urged to contact applicant's undersigned representative by telephone at (206) 622-4900 in order to expeditiously resolve prosecution of this application.



Consequently, early and favorable action allowing these claims and passing this case to issuance is respectfully solicited.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

Respectfully submitted,  
SEED Intellectual Property Law Group PLLC

  
E. Russell Tarleton  
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ERT:alb

Enclosures:

1 Sheet of Replacement Drawings (Figure 1)  
Copy of Return Stamped Postcard  
Copy of ADS as filed on 02/03/04

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PLEASE STAMP WITH APPLICATION NO. AND RETURN



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Kindly acknowledge receipt of the below-listed documents by placing your receiving stamp hereon and mailing:

Large Entity Utility Patent Application Transmittal; Application Data Sheet; Spec., Claims, Abstract (23 pages); 3 Sheets of Drawings (Figs. 1-4); in re: Andrew Dellow, for DECRYPTION SEMICONDUCTOR CIRCUIT.

Application  
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